UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,674	07/20/2006	Lan Wang	08411.0050	8064

22852 7590 09/25/2009

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP
901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER	
LIN, SHEW FEN	

ART UNIT	PAPER NUMBER
2166	

MAIL DATE	DELIVERY MODE
09/25/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/586,674	WANG, LAN	
	Examiner	Art Unit	
	SHEW-FEN LIN	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-16 and 18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-16 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/3/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

a. This action is taken in response to amendments and remarks filed on 6/3/2009.

b. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn.

c. Claims 1-2, 4-16 and 18 are pending. Claims 1-2, 4-16 and 18 were amended and claims 3 and 17 are cancelled. Claims 1 and 18 are independent claims.

Information Disclosure Statement

The Information Disclosure Statement(s) received on June 3, 2009 is in compliance with provisions of 37 CFR 1.97. Accordingly, the Information Disclosure Statement(s) are being considered by the examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 4-13, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (US Patent Publication 2002/0046028) in view of Singh (US Patent Application Publication 2002/0152219).

As to claim 1, Saito teaches an apparatus for updating a hierarchical classification dictionary (See [0013] where an extracted means extracts a speech recognition dictionary belonging to a lower hierarchical level of the reference speech information corresponding to the speech recognized and a list storing means updates and stores extracted speech recognition dictionary), the apparatus comprising:

a processor (See Fig. 1 and [0034] where an apparatus capable of performing feature amount calculation, dictionary selection, speech recognition and dictionary search is a processor);

an update proposal receiving unit that receives a proposal for updating a hierarchical classification dictionary (See [0013] where a speech input is a proposal for recognizing and extracting its dictionary, storing recognized and updating the speech dictionary), the hierarchical classification dictionary having a hierarchical structure including a class that defines the hierarchical structure, the class including a property defining a hierarchical class structure and an attribute that is a detailed information field of the class and the property (See Fig. 2 and [0055], [0056], where genre name dictionary is the class defining a hierarchy structure as its genre name property attribute details information field as station name, hospital, lodging facility, … etc), wherein the hierarchical classification dictionary includes sub classification classes that inherit properties from upper classification classes (See Fig. 3A and [0047] where the sub-genre name dictionary is the sub classification referencing information representative of the sub-genre names belonging to each of the upper class, the genre name dictionary);

a proposal history storing unit that stores past received proposals to update the hierarchical classification dictionary (See [0017] where speech input is stored);

Concerning an approximate proposal extracting unit that extracts one of the past received proposals stored by the proposal history storing unit that approximates the a latest received proposal, the extracted proposal being extracted by searching the past received proposals using a search technique to determine that the extracted proposal approximates the latest received proposal, Saito discloses input speech is stored, recognized and extracted to update a hierarchical classification dictionary as previously described and further specifically teaches using a search technique to determine that the extracted proposal approximates the latest received proposal by calculating sum of sizes of all dictionaries in the speech input meeting condition and output the dictionaries as recognized (See Fig. 5, [0085]).

Saito does not explicitly teach the rest of an approximate proposal extracting unit that extracts one of the past received proposals stored by the proposal history storing unit that approximates the a latest received proposal, the extracted proposal being extracted by searching the past received proposals using a search technique to determine that the extracted proposal approximates the latest received proposal other than what have described above.

However, Singh discloses an approximate proposal extracting unit that extracts one of the past received proposals stored by the proposal history storing unit that approximates the a latest received proposal, the extracted proposal being extracted by searching the past received proposals using a search technique to determine that the extracted proposal approximates the latest received proposal (See Abstract, [0027], where a predetermined dictionary is based for determining if parsed words or data bit chunk of varying lengths in the dynamically created supplemental dictionary are not present there in the predetermined dictionary).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine the teaching of Singh with Saito reference by implementing a predetermined dictionary for recognizing speech input dictionaries for Saito's system because Saito is designated to reduce the number of subjects in speech input and such a predetermined dictionary would have allowed Saito to further reduce location subjects in speech input as the predetermined dictionary could have been tailored to a location dictionary.

The combined teaching of Singh and Saito references further teaches the following: wherein the search technique used to extract the past received proposal differs based on whether the latest received proposal is a proposal to edit the hierarchical classification dictionary or a proposal to add to the hierarchical classification dictionary (See Singh: [0017] where text of input file is parsed and compared to compiled hierarchical dictionaries, determined its presence in the predetermined dictionary and then created a supplemental dictionary to store); and

an approximate proposal presenting unit that presents the extracted proposal (See Saito: [0099] where the recognized dictionaries are displayed).

As to claim 2, Saito in view of Singh teaches the apparatus according to claim 1, wherein the proposal presented by the approximate proposal presenting unit contains a content of the proposal received by the update proposal receiving unit, a result of evaluation indicating one of rejection and acceptance of the proposal received by the update proposal receiving unit, a content of a comment on the proposal received by the update proposal receiving unit, and information on a degree of approximation that is a result of calculation of the degree of approximation (See Saito: Figs. 1, 5-6, [0085]-[0086] and [0090] where a speech recognition apparatus is embodied

with speech input unit, a recognition section, recognition dictionaries, storing section and display section; and similarity degree of genre name to each word of dictionary on ram is calculated for genre name recognition and only the recognized is output).

As to claim 4, Saito in view of Singh teaches the apparatus according to claim 1, wherein when the received proposal is a proposal for adding one of a new class and a new property, the approximate proposal extracting unit searches the proposal history storing unit for a past received proposal based on respective attributes of the proposal for adding, to extract the proposal that most closely approximates the proposal for adding (See Saito: [0025] where recognition dictionary is updated as reference speech information is compared to and recognized with speech inputted).

As to claim 5, Saito in view of Singh teaches the apparatus according to claim 1, wherein when the received proposal is for adding a new class, the approximate proposal extracting unit searches the proposal history storing unit for a proposal with a highest degree of similarity to a collection of properties of the proposal for adding, to extract the proposal that approximates the proposal for adding (See Saito: [0041] where new recognition result is outputted to store for updating as a second recognition result).

As to claim 6, Saito in view of Singh teaches the apparatus according to claim 1, further comprising an addition target searching unit that is configured to, when the received proposal is a proposal for adding one of a new class and a new property, advise of an addition target where the

proposal for adding is to be added, according to a location of the proposal extracted by the approximate proposal extracting unit (See [0092] where reference speech information representative of each location name is loaded to the RAM in order to make a location name of the extracted location name dictionary a subject of recognition word/phrase).

As to claim 7, Saito in view of Singh teaches the apparatus according to claim 6, wherein when the received proposal is a proposal for adding a new class, the addition target searching unit advises of the addition target according to a hierarchical structure of the proposal found as a result of search based on a part or a whole of properties of the proposal for adding (See Saito: [0017] where similar word storing means also stores similar speech reference speech information newly recognized).

As to claim 8, Saito in view of Singh teaches the apparatus according to claim 6, wherein when the received proposal is a proposal for adding a new class, the addition target searching unit advises of the addition target according to a result of comparison between a property of the proposal found as a result of search based on a content of an attribute of the proposal for adding, and a property of the proposal for adding (See Saito: [0025] where the extracted speech recognition dictionary is being updated as reference speech information to be compared and comparison is made between updated reference speech information and the input speech to thereby recognize the speech inputted).

As to claim 9, Saito in view of Singh teaches the apparatus according to claim 6, wherein when the received proposal is a proposal for adding a new property, the addition target searching unit advises that a class that defines the proposal approximate to the received proposal is presented as the addition target (See Singh: [0017] where a supplement dictionary including the parsed words that are not present in the predetermined dictionary is created).

As to claim 10, Saito in view of Singh teaches the apparatus according to claim 1, further comprising a proposal advice presenting unit that is configured to advise of a result of evaluation indicating rejection of the received proposal, when the proposal extracted by the approximate proposal extracting unit is identical with the received proposal (See Saito: Figs. 1, 5-6, [0085]-[0086] and [0090] where a speech recognition apparatus is embodied with speech input unit, a recognition section, recognition dictionaries, storing section and display section; and similarity degree of genre name to each word of dictionary on ram is calculated for genre name recognition and only the recognized is outputted).

As to claim 11, Saito in view of Singh teaches the apparatus according to claim 1, further comprising a proposal advice presenting unit that is configured to advise of a result of evaluation of the proposal extracted by the approximate proposal extracting unit as a result of evaluation of the received proposal (See Saito: Figs. 1, 5-6, [0085]-[0086] and [0090] where a speech input is seen as a proposal; and similarity degree of genre name of speech input to each word of dictionary on ram is calculated for genre name recognition and only the recognized is outputted).

As to claim 12, Saito in view of Singh teaches the apparatus according to claim 10, further comprising an evaluating and commenting unit that makes a dictionary manager evaluate and comment on the received proposal according to the result of evaluation given as advice (See Fig. 1, [0034] and [0039] where a speech recognition section evaluates speech input and a control section provides instruction for extraction is seen as advice).

As to claim 13, Saito in view of Singh teaches the apparatus according to claim 11, further comprising an evaluating and commenting unit that makes a dictionary manager evaluate and give comment on the received proposal according to the result of evaluation given as advice (See Fig. 1, [0034] and [0039] where a speech recognition section evaluates speech input and a control section provides instruction for extraction is seen as advice).

As to claim 16, Saito in view of Singh teaches the apparatus according to claim 1, further comprising the following:

a proposal draft receiving unit that receives a proposal that approximates a proposal draft (See Saito: [0020] where a speech input means to input speech which is seen as a proposal);

a simulative approximate proposal extracting Unit that makes the proposal extracting unit search for the proposal received by the proposal draft receiving unit (See Saito: [0089] where a feature amount calculation section a recognition section is for extracting recognized); and

a simulative approximate proposal presenting unit that presents the proposal extracted by the simulative approximate proposal extracting unit (See Saito: Figs. 1, 5-6, [0085]-[0086] and [0090] where a speech input is seen as a proposal; and similarity degree of genre name of speech

input to each word of dictionary on ram is calculated for genre name recognition and only the recognized is outputted).

As to claim 18, the claim is directed to a method of updating a classification dictionary executed by an apparatus as described in claim 1, and it is therefore rejected along the same rationale.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (US Patent Publication 2002/0046028) in view of Singh (US Patent Publication 2002/0152219), and further in view of Nitta et al. (U.S. Patent Publication 2005/0154690, hereinafter Nitta).

As to claim 14, Saito in view of Singh does not explicitly teach that the apparatus according to claim 1, further comprising a history statistics analyzing unit that generates statistics and analyzes a history of the past received proposals stored in the proposal history storing unit.

However, Nitta teaches a history statistics analyzing unit that generates statistics and analyzes a history of the past received proposals stored in the proposal history storing unit (See [0285] where statistics checking step that carries out usage-related statistics processing of the categories in the semantic information dictionary and category dictionary information).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to further combine the teaching of Nitta with Singh and Saito references by incorporating Nitta's text mining method designated to improve utilization efficiency and flexibility which would have improved efficiency of Saito's system because all

three systems are dedicated to hierarchical dictionary processing and the combined teaching would have improved speech recognition as the recognition process heavily involves texts mining, comparison and extraction from dictionaries.

The combined teaching of Nitta, Singh and Saito references further teaches a reuse proposal presenting unit that extracts a past received proposal to reuse from the proposal history storing unit according to the statistics and the analysis of the history, notifies a proposer of the reuse, and presents the proposal to reuse (See Nitta: [1088] and [1099] where operation history are collected for each text mining operation for automatic analysis; Singh: [0017] where text of input file is parsed and compared to compiled hierarchical dictionaries, determined its presence in the predetermined dictionary and then created a supplemental dictionary to store and for reuse).

As to claim 15, Saito in view of Singh and Nitta teaches the apparatus according to claim 14, further comprising a degree-of-attention presenting unit that presents a class, a property, and an attribute with a high degree of attention based on the statistics and the analysis of the history (See Nitta: [1088] and [1099] where operation history are collected for each text mining operation for automatic analysis).

Response to Amendment and Remarks

Applicant's arguments have been fully and carefully considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new grounds of rejection presented in this Office Action. Accordingly, **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shew-Fen Lin whose telephone number is 571-272-2672. The examiner can normally be reached on 8:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Shew-Fen Lin /S. L./
Examiner, Art Unit 2166
September 20, 2009

/Hosain T Alam/

Supervisory Patent Examiner, Art Unit 2166